

Appl. No. 09/664,705

REMARKS / ARGUMENTS

In the official communication of May 9, 2001, the Examiner objected to original claim 1-20 under 35 U.S.C. 103(a) as being unpatentable over Farahi et al. (filed October 23, 1997), Pinvidic et al. (filed June 5, 1998), and Tulip (filed September 11, 1995), taken together. Applicant would like to advise the Examiner, however, that this application is a continuation of applicant's prior application No. 08/508,505, which was filed July 28, 1995. All of the references cited have filing dates after applicants earliest date, and, applicant submits they are not citable under 35 U.S.C. 103(a).

In any event, applicant has amended its claims to more clearly define the invention in view of all the art of record. In particular, the newly presented independent claims, namely claim 21, 38, and method claim 40, disclose using a laser tunable over a range of frequencies for generating a laser beam, and controlling the frequencies to scan across an absorption range encompassing an absorption line of a selected trace constituent gas of interest. This ability of applicant's invention to sample trace constituent gas as a function of frequency across an absorption line of interest is unique to applicants invention and allows higher precision and accuracy of the present invention compared to prior art systems.

Applicant submits that the newly presented claims are patentable over all of the references of record

Concerning the amendments to the specification applicant submits that these do not add new subject matter to this application but merely clarify the text of the description.

Applicant submits that this is a complete response to the outstanding Examiner's communication and that this application is in condition for allowance. Such action is respectfully solicited. Should the Examiner have anything further to discuss to bring this application into condition for allowance, applicant invites the Examiner to contact the undersigned by telephone at (416) 957-1697.

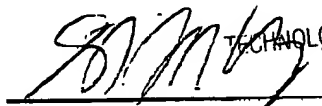
Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Title:

The title has been amended as follows:

**METHOD AND APPARTUS FOR MONITORING TRACE CONSTITUENTS IN FLUE
ATMOSPHERIC GASES, UTILIZING A LASER BEAM**

In the Specification:

The paragraph beginning at page 4, line 22, has been amended as follows:

In accordance with the present invention, there is provided an apparatus for remote detection of selected trace constituents in a fluid, for example in flue gases. ~~The apparatus is provided, in use, in an installation comprising at least one stack for discharging flue gases to atmosphere and at least one building providing an enclosed area.~~ The apparatus comprises:

The paragraph beginning at page 5, line 9, has been amended as follows:

~~The~~ In one use of the apparatus of this invention the optical transmission means and the receiving means are mounted to one a stack that discharges flue gases to the atmosphere. In particular, the transmission means and receiving means are mounted adjacent the top thereof of the stack and on opposite sides of the stack, whereby the laser beam is transmitted through the flue gases discharged from the stack. The laser and detector means are then located in the enclosed area of the building, so as to be protected by that enclosed area. The transmission means and the receiving means are located remote from the laser and the detection means and are connected to them by the optical fiber connection means.

The paragraph beginning at page 5, line 24, has been amended as follows:

~~Surprisingly, it~~ It has been found that a single mode fiber can be used and that the returned beam can be readily focused on the end of the optical fiber, despite its small diameter, so that the single fiber can be used for both transmission and reception. Also, despite the requirement to provide splitter and combiner means at the laser, high efficiencies can be achieved.

The paragraph beginning at page 7, line 23, has been amended as follows:

Figure 4a b is a schematic view of fiber optic connections showing the use of multiple lasers in a second embodiment of the invention;

The paragraph beginning at page 13, line 1, has been amended as follows:

A single laser controller 10 may hold and control several lasers and by means of a beam splitter ~~light~~ can feed light to single or several probes simultaneously. As the controller 10 is

linked to a computer, the computer, in addition to manipulating and storing data, can also electronically control the operation of the controller 10.

In the claims:

Please cancel claims 1 to 20, without prejudice, and insert new claims 21 to 52.